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**BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554**

Federal Communications Commission  
Office of Secretary

In the Matter of )  
 )  
Rulemaking to Amend Parts 1,2, 21, )  
and 25 of the Commission's Rules )  
to Redesignate the 27.5-29.5 GHz )  
Frequency Band, to Establish Rules )  
and Policies for Local Multipoint )  
Distribution Service and for Fixed )  
Satellite Services )

CC Docket No. 92-297

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To: The Commission

**INITIAL COMMENTS OF ICE-G, INC. DBA  
INTERNATIONAL COMMUNICATIONS ELECTRONICS GROUP**

ICE-G, Inc. dba International Communications Electronics Group (ICE-G) hereby submits its initial comments as permitted by the Commission's July 22, 1996 First Report and Order and Fourth Notice of Proposed Rulemaking (First Report and Order) (FCC 96-311). In support whereof, the following is respectfully submitted:

1) ICE-G is an entrepreneurial company which was formed for the purpose of developing and deploying advanced telecommunications systems and services operating at 28 and 40 GHz. ICE-G currently possesses licenses to conduct radio experimentation in both frequency bands.

2) ICE-G has developed a 100% digital operating system in the 40 GHz band. The 40 GHz spectrum and the equipment developed for use in that band are superior to the 28 GHz band in view of more rapid signal attenuation (thereby enhancing frequency reuse) and

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digitization of signals (thereby enhancing capacity on a given signal). Such factors are of critical concern in developing a radio network which will compete with the telephone companies and the cable television companies in the provision of local telephone exchange and video distribution services.

3) Paragraph 14 of the First Report and Order notes that 28 GHz LMDS will compete with local telephone exchange and cable television services. Unlike the analog systems operating at 28 GHz, ICE-G's 40 GHz system will provide these services over a secure, digitized network.<sup>1</sup>

4) Also, there will be sufficient bandwidth available for true two-way interactive communications. That is, the upstream/-downstream bandwidths will be wide enough to accommodate consumers' sending the same amount of video/data information upstream as the consumer receives downstream from the system. Current interactive systems always skimp on the upstream bandwidth which carries the consumer's "response" back to the network.<sup>2</sup> It is this equality of

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<sup>1</sup> Moreover, the 40 GHz digitized system will provide wireless computer-to-computer and computer-to-internet connections (50-5,000 megabits per second data transfers noted in the Notice of Proposed Rulemaking, FCC 94-273, released November 8, 1994, n. 12). Traffic jams on the information superhighway will become a distant memory about which people will fondly bore their children and grandchildren. "I remember when you actually had to wait for information to compile in your computer, byte by byte, before you could see what the other computer sent," will be a story told to countless young ones whose first-hand experience will relate only to instantaneous computer communications.

<sup>2</sup> Current "interactive" systems include the 28 GHz LMDS system operating in New York, various cable TV interactive projects and demonstrations, and the Commission's Interactive Video and  
(continued...)

sufficiently large upstream/downstream bandwidths which will permit truly interactive services.<sup>3</sup>

5) ICE-G agrees with NASA's and TRW's comments as noted at paragraph 30 of the First Report and Order that 40 GHz is well suited for LMDS applications. ICE-G has developed an interactive, digitized, video, voice and data system which will operate at 40 GHz. Moreover, ICE-G agrees with Lockheed Martin's and GE Americom's conclusions that LMDS service in the 40 GHz band would not be cost prohibitive. ICE-G's analysis over several years has determined that the required consumer equipment will be priced at approximately \$400. This cost closely approximates the price which consumers currently pay for DBS reception equipment.

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<sup>2</sup>(...continued)

Data Service (IVDS). None of these systems offers true, full service, interactive capability.

<sup>3</sup>

Video conferencing, entertainment, and other services will be developed for the mass market in conjunction with a digitized, 40 GHz system. For instance, technology infrastructure and equipment costs severely limit the availability of video conferencing to companies which can afford to lease a T-1 connection; it is not now economically feasible for a consumer to lease a T-1 line merely to converse with a friend or relative. ICE-G's 40 GHz system does not require trenches, or hundreds of thousands of poles, or millions of miles of wire, or the expenses associated with maintaining that system. It is expense and bandwidth limitation which has impeded the vision of a mass marketed video phone. A digitized, two-way system operating at 40 GHz will make affordable, real time, full motion video conferencing available to a college student in Boston and his/her parents in Spokane, WA.

6) However limited the 28 GHz band may be, it will be useful, but not ideal,<sup>4</sup> in competing with the local telephone exchanges. For the reasons discussed below, the Commission should make various companies and their affiliates and subsidiaries ineligible for applying for 28 GHz authorizations. The companies to be excluded from eligibility include all companies, and their related companies, which provide local exchange service or cable television service in any portion of any large market, large market being defined as the top 100 MSAs.

7) The recently enacted Telecommunications Act of 1996 seeks to encourage competition in the provision of local telephone exchange services. The United States is currently at a cross roads in the development of local telephone exchange and video distribution services in which several communications monoliths currently dominate both the telephone and cable TV communications networks.

8) The 28 GHz proceeding provides a tremendous opportunity for the Commission to begin a radical broadening of the ownership structures in both the telephone exchange and video distribution services while simultaneously providing for continued service over existing facilities and while fostering a nascent industry which will one day compete for local exchange and video service subscribers. By excluding the large communications companies from

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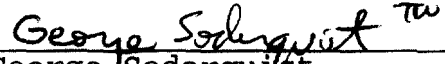
<sup>4</sup> As noted above the 28 GHz technology is analog and not secure. PCS service providers currently tout their digital systems as being better than cellular because cellular is still analog between the cellular phone user and the base station transmitting antenna thereby causing conversations to be interceptable and decipherable without special equipment.

eligibility the Commission would further Congress' statutorily stated desire to ensure that small businesses have a realistic opportunity to participate in the communications industry.<sup>5</sup> 47 U.S.C. §309(j).


WHEREFORE, in view of the information presented herein, it is respectfully submitted that the large communications companies, which companies are defined as those companies which provide telephone exchange service or cable television service in any portion of the top 100 MSAs.

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Respectfully submitted,  
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Its Attorney

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<sup>5</sup> ICE-G thus suggests that the communications giants not only be excluded from 28 GHz in all markets and not only in those markets in which they provide telephone exchange or cable television service.